

# **Roads, Recreation, and Resource Protection: A Reconciliation Ecology Approach**

Dale J. Blahna  
Department of Environment and Society  
Institute for Outdoor Recreation and Tourism  
Utah State University

Travel Management on Public Lands Workshop: Research, Collaboration, and Management Approaches.  
USGS, Policy Analysis and Science Assistance Branch, Fort Collins, CO, Feb. 21-23, 2006

# Presentation Topics

- ⇒ Historical context: *deja vu* all over again?
- ⇒ Objectives: Balance use and protection
- ⇒ Implementation: Collaboration and science
- ⇒ Lessons learned
- ⇒ Philosophical context: reconciliation ecology

# The Chief's New National Debate

- ⇒ Chief's four "great threats" (Bosworth 2003)
  - Fire and fuels
  - Invasive species
  - Loss of open space
  - Unmanaged recreation
- ⇒ Tremendous growth in recreation
- ⇒ Number of OHV drivers "has just exploded"
- ⇒ Hundreds of miles of unauthorized roads and trails, repeated cross-country use, erosion, water degradation, habitat destruction, conflicts, damage to cultural sites . . .
- ⇒ BLM, National Strategy for Motorized Use . . . (2001)
- ⇒ USFS, Travel Management rule (Nov. 2005)

# Brief History

- ⇒ BLM “Off-road Vehicle” Regs, 1982 (43 U.S.C, 8340)
- ⇒ E.O. 11644, 1972 (Use of Off-road Vehicles on Public Lands)
- ⇒ Dave Baumgartner, Logan RD (1990)
- ⇒ Forest planning, first round (Blahna & Yonts-Shepard, 1990)
  - No new roads! (Environmentalists)
  - Access to *existing* roads/use areas (recreationists)
- ⇒ Built thousands of miles of roads for resource extraction—few were closed—justified later for recreation use BUT . . .
- ⇒ No plan, little Recreation role, Engineering focus

# "Ultimate Cause"? Ignoring People

- ⇒ Recreation undervalued for 30 years
  - Forests have lost ROS classifications
  - 3% of research budget
  - Professional job series
- ⇒ Misuse social science information
- ⇒ Not public's "fault" –Must invest time/resources
- ⇒ Are we doomed to repeat history . . . ?
  - Utah BLM fast-tracking five resource areas plans
  - Purpose: oil and gas development, and more roads . . .  
(Anonymous, high ranking official).

# 21<sup>st</sup> Century Travel Management

- ⇒ Clear identification of roads, trails, and areas
- ⇒ Prohibit vehicles off “designated system”
- ⇒ Provide access *and* protection

*Sustain natural resource values through more effective management of motor vehicles . . . enhance opportunities for motorized recreation, address needs for access . . .*

- ⇒ Opportunity diversity
  - Motorized experiences
  - Motorized → nonmotorized

- ⇒ Public involvement, bottom up, no deadline

*The Department believes such choices and evaluations are best made at the local level, with full involvement of Federal, tribal, State, and local governments, motorized and non motorized users, and other interested parties . . . [and such] cooperative work . . . offers the best hope for long-term resolution of issues involving recreational use . . . of motor vehicles. An inflexible deadline can make collaborative solutions more difficult.*

# Link Recreation-Travel Management Objectives

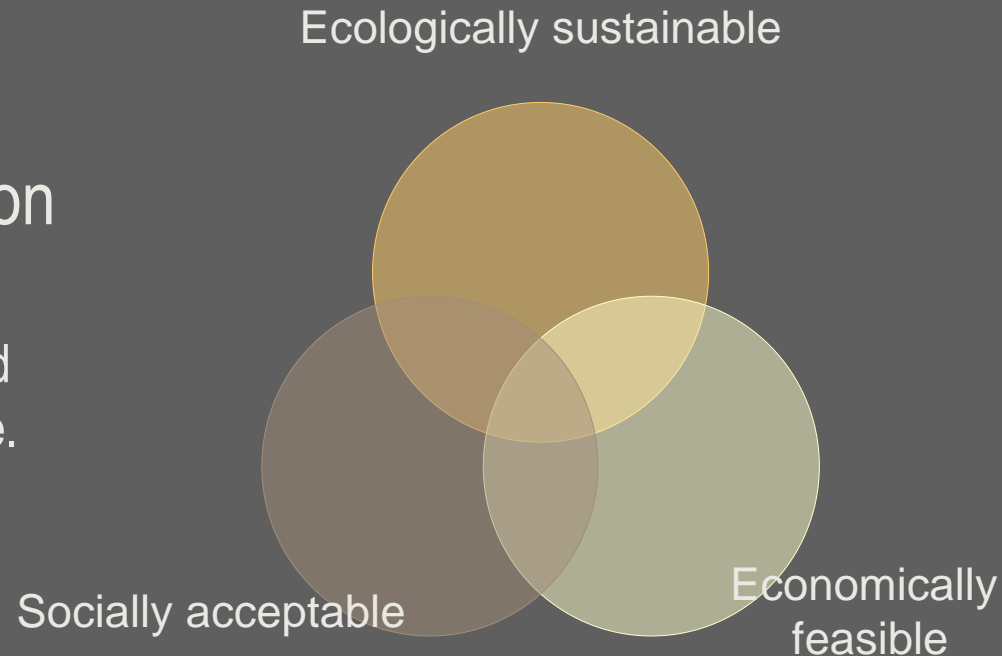
- ⇒ Paradox 1: Provide recreational experiences *and* protect resources (the “dual mandate”!)
- ⇒ Paradox 2: Collaboration + Science
- ⇒ Possible to meet the policy mandates:
  - Social science data
  - Two case studies
- ⇒ Irony: two common orientations may do *neither*
  - Closing roads (road designation ≠ closing roads)
  - “Traditional” public involvement (scoping + draft ≠ collaboration)

# Addressing the Policy Paradoxes

## Ecosystem Management

1. *Balance* use and protection
2. Merge science & collaboration

Based on: Salwasser, Gilmore, Cortner and Moote, and 2005 NFMA planning rule.

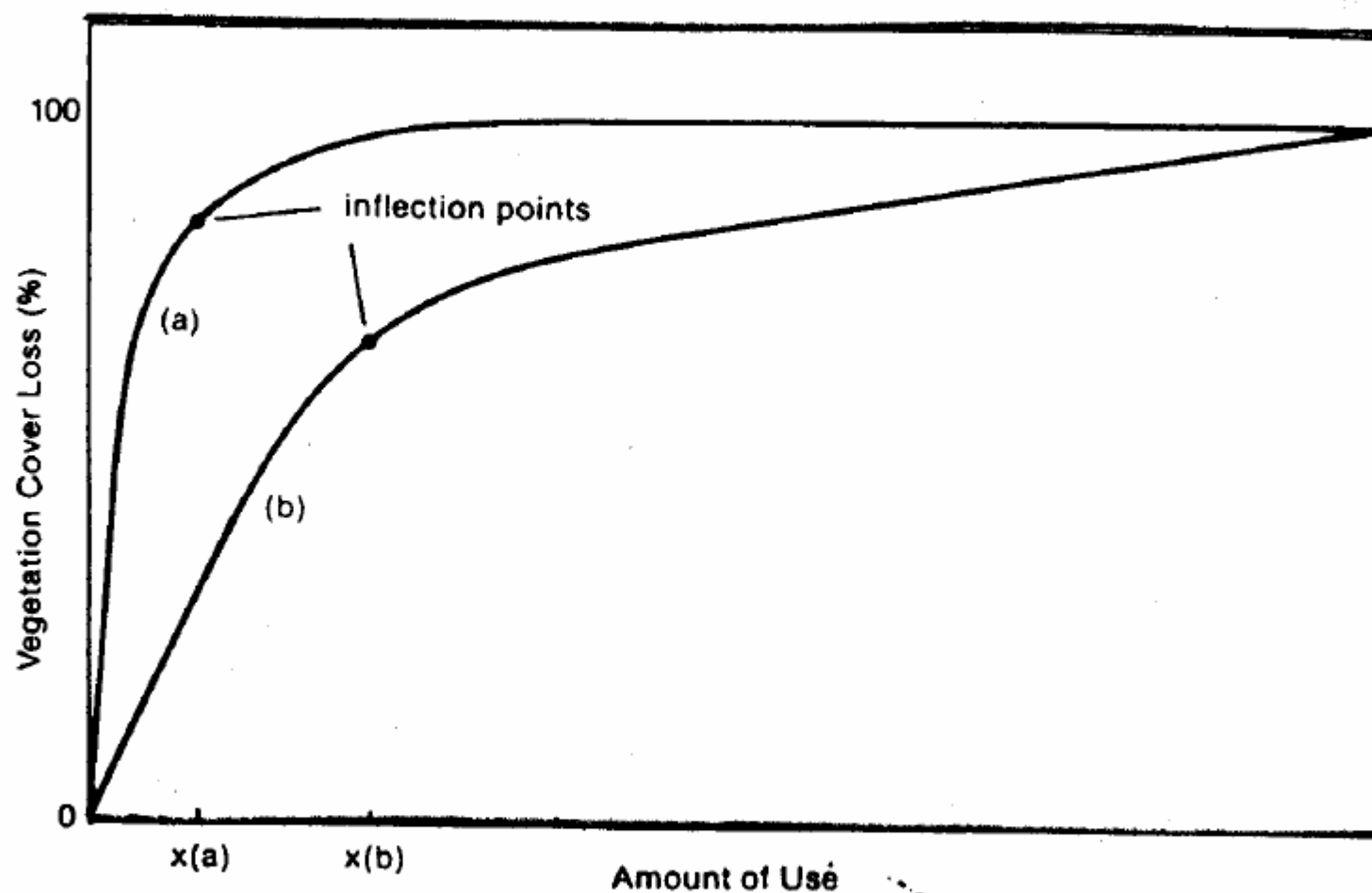




# Ecologically Sustainable?

- ➔ Participation in OHV driving and mountain biking “exploded”
- ➔ So what’s the “capacity”? There *must* be a limit. . .
- ➔ Limits? Closure? Could be the worst thing to do





**FIGURE 1.** The general relationship between amount of use and loss of vegetation cover for (a) a fragile vegetation type and (b) a more resistant type. (Source: D. N. Cole.)

# Use-Impact Curve Implications

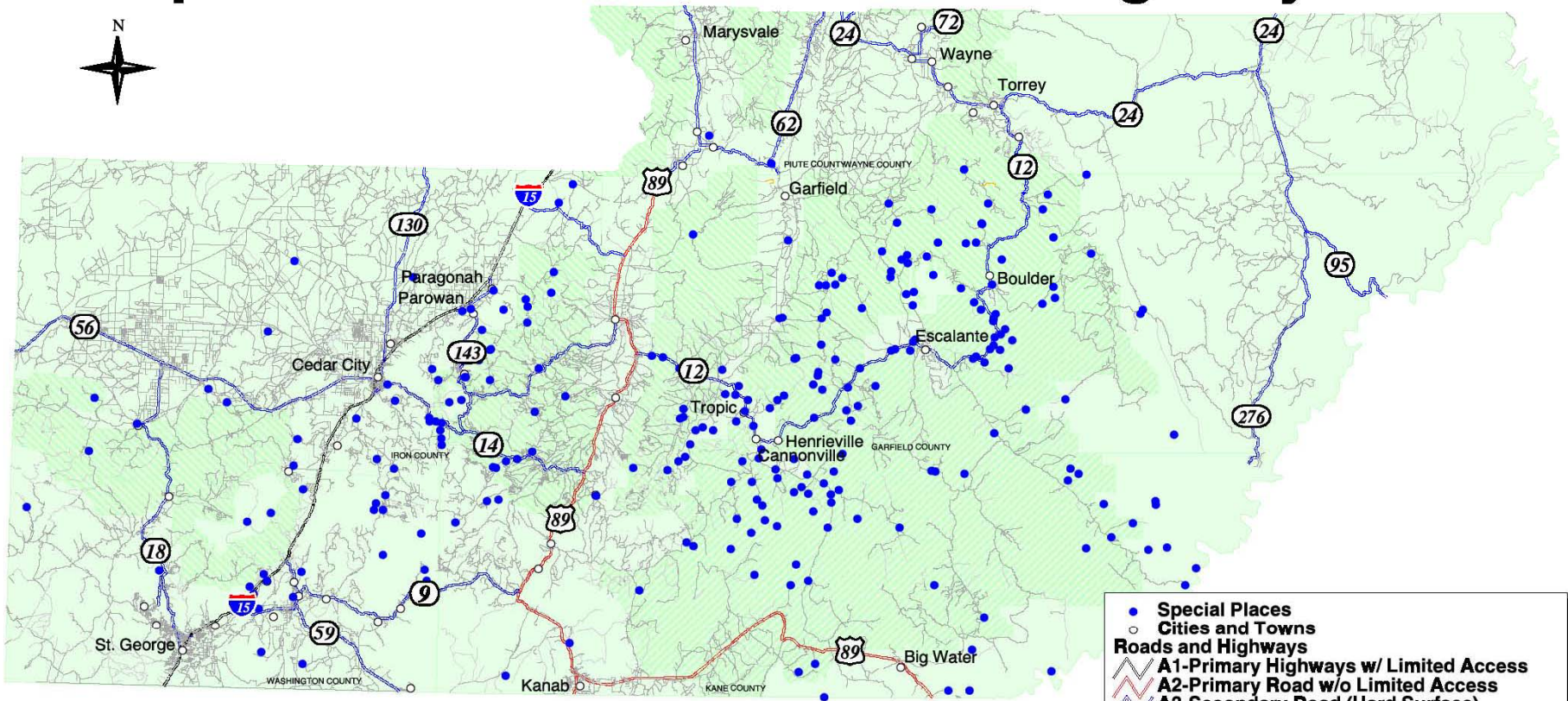
- ⇒ Displacement: Where will people go?
- ⇒ Must look at the regional context
- ⇒ Closing roads may be the worst thing to do ecologically
  - “Roads” means impacts have already occurred
  - Closure may send people to less used areas
  - Fix problems in high use areas
  - Evaluate *all* management practices (harden, zone, educate, alternative routes, . . .)
  - Conduct regional assessment of opportunities
  - Celebrate high use/impact areas
  - Limits/closures often *low* use/impact areas

# Socially Acceptable

- ⇒ Key objective: Protect resources *and* access
- ⇒ Identify/map key destinations and routes
- ⇒ Understand experience diversity
- ⇒ Use participatory methods
- ⇒ Fixing problems is basis for common ground
  - Identify best management practices
  - Do not default to “closure”
- ⇒ Show use/protection benefits on-the-ground



# Special Places with Roads and Highways



- Special Places
- Cities and Towns
- Roads and Highways**
- A1-Primary Highways w/ Limited Access
- A2-Primary Road w/o Limited Access
- A3-Secondary Road (Hard Surface)
- A4-Local and Rural (Can be Unpaved)
- A5-Vehicle Trail (4x4-Unpaved)
- A6-Interchanges
- A7-Bike or Pedestrian Trail
- P4-Provisional (a4)
- P5-Provisional (A5)
- Grandstaircase-Escalante N. M.
- United States Forest Service
- Counties

# Moab Easter Jeep Safari, 1997

How should managers focus their efforts (17 items)?

- *Highest* ranked:

- Protect historical/cultural sites
- Protect wildlife
- Provide trail safety and etiquette information
- Designate new four-wheeling roads/trails
- Prevent vegetation impacts

- *Lowest* ranked:

- Toilets at trailheads
- Increase law enforcement on roads/trails
- Increase agency staff on roads/trails
- Maintain trails to make them more passable

**Table1. Ranking of eight general reason categories for OHVing in the Moab Area and in General<sup>1</sup>.**

Reason Category	Category rank for OHVing in	
	Moab	General
<i>New Landscapes</i>	1	1 (tie)
<i>Natural Setting/Escape</i>	2	1 (tie)
<i>Self Test</i>	3	3
<i>Socializing</i>	4	5
<i>Predictability/Control</i>	5	4
<i>Self Improvement</i>	6	7
<i>Nature Study</i>	7	6
<i>Thrill/Social Status</i>	8	8

<sup>1</sup>Based on a scale of 30 individual items such as “being with family and friends”, “meeting other people,” and “being part of an organized group or club.” (6 = Good, 1 = Poor)

# OHV Experience types

## ⇒ National Survey on Recreation and the Environment (Cordell et al. 2005)

- Middle of the roaders (27%)
- Upper middle class nature lovers (18%)
- Seniors (7%)
- Middle age actives (23%)
- Young adventure seekers (25%)

## ⇒ St. Anthony Sand Dunes SMA (Wagoner 2006)

- Social (34%)
- Composite (33%)
- Committed—thrills/action (32%)



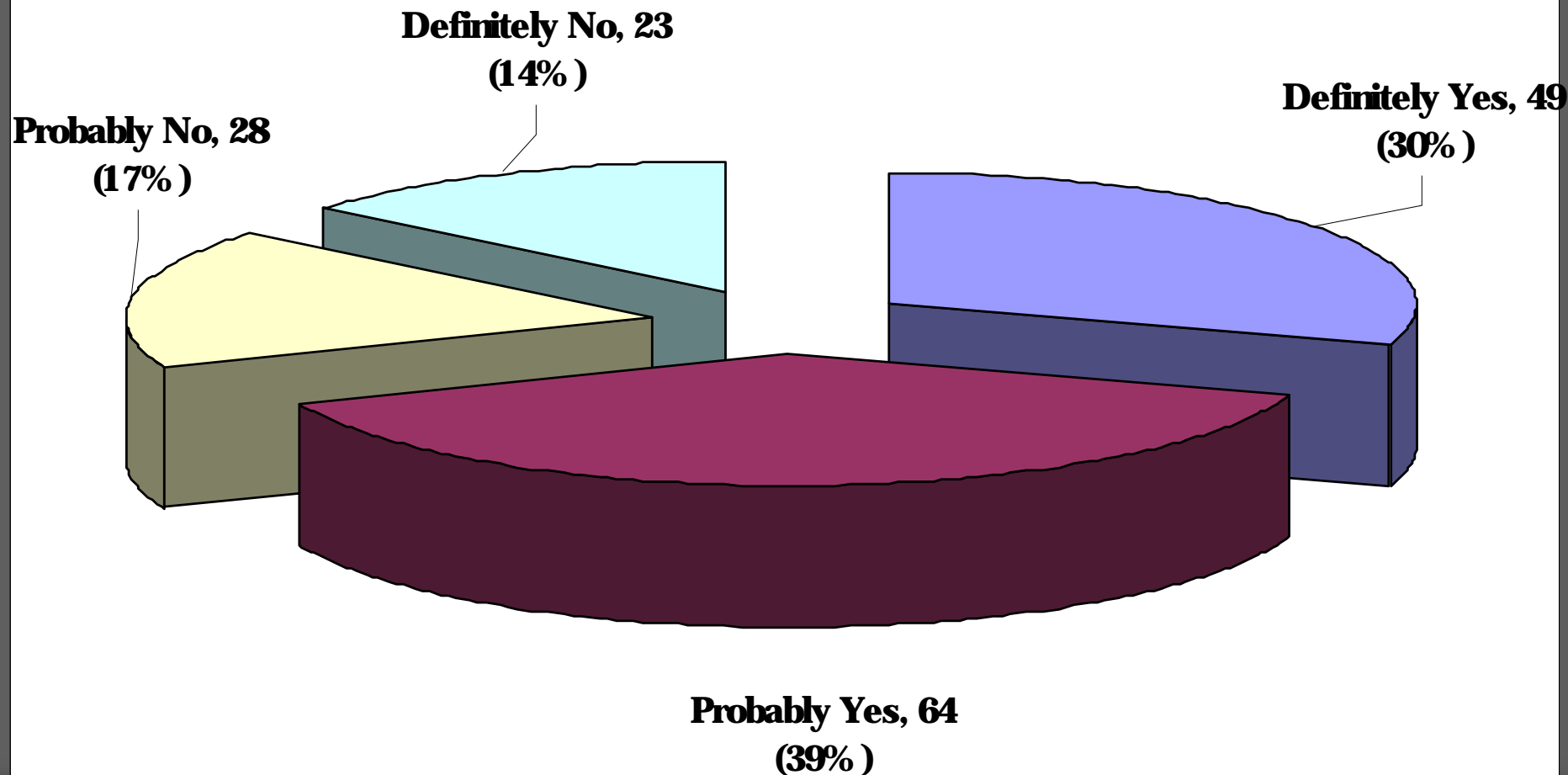
# Preferred Riding Type (State of Utah, 2002)

	Motorcycle	ATV	4X4
Off established trails	38.1	49.4	27.6
Double track or jeep trail	12.7	17.1	6.9
Single track trail	12.7	4.3	N/A
Moto-cross or ATV course	9.5	15.1	N/A
Roads	11.1	4.3	51.7

# Economically Feasible

- ⇒ Economic factors in planning rule, but NOT travel management rule . . . “Beyond scope . . .”
- ⇒ Assume “best practices” anyway, but in reality . . . ?
- ⇒ It is possible:
  - Access fees
  - Volunteers, partnerships
  - Grants, cooperative funding
  - Concentrate use—concentrate management & education
  - Point of a good plan is to argue for resources . . .

# St. Anthony Sand Dunes: Willing to pay a fee?



# Summary of Willingness to Pay for Four Studies

OHV Study Area	Willing to pay? (Y/PY)	Day	Week	Year
St. Anthony Sand Dunes SRMA	69%	\$5	\$18	\$52
Little Sahara SRMA (extra per vehicle)	73%	\$4		\$20
Moab Easter Jeep Safari	72%			
Moab Slickrock Trail	80%	\$2	\$10	\$20

# When are Fees Socially Acceptable?

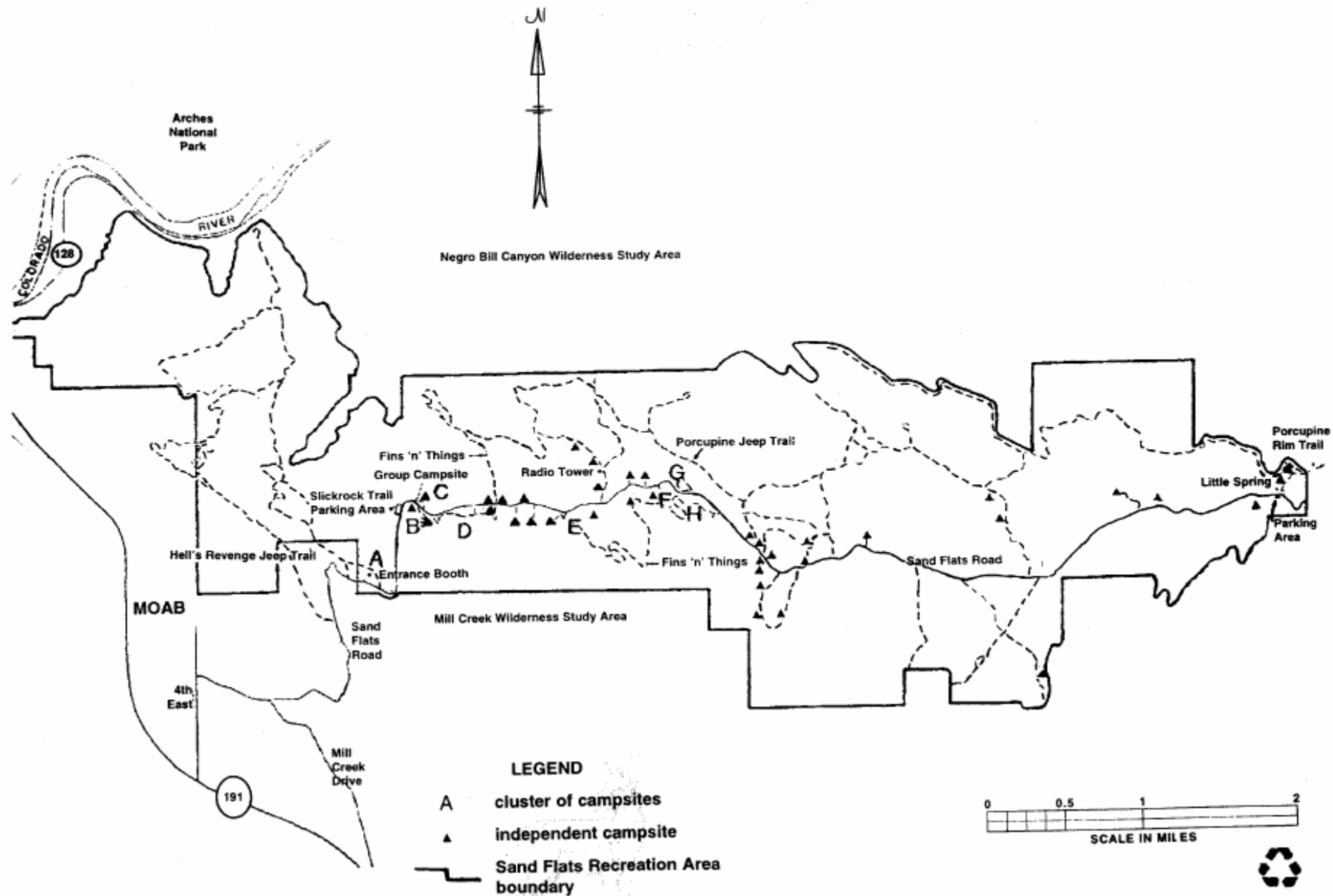
- ⇒ Nominal amount (not full cost/profit)
- ⇒ Funds stay/used on-site
  - Recreation management/access
  - Resource protection
- ⇒ Visitors can see how funds are used
- ⇒ Public relations

# Slickrock-Sand Flats Area ( Moab, UT)

Use of SRT increased from 300 in 1986 to 90,000 in 1993.

- ➔ Camping, roads expanded into Sand Flats (~9,000 acres of PJ, sage, grasses)
- ➔ Local community conflict
- ➔ SUWA: BLM must set use limit and close Sand Flats
- ➔ Two surveys: SLT in 1993 and regional survey in 1994





# Summary: Slickrock/Sand Flats Study

- ⇒ Use level: 83% “acceptable” or “could increase”
- ⇒ Physical impacts: 38% “acceptable” and 38% “too high”
- ⇒ Preferred management focus: 6% on “services” and 40% on “resource protection” (54% on both)
- ⇒ Other management priorities: Protection of resources (high), information on impacts and facilities (medium), additional services/access (low)
- ⇒ Charge fees?: 86% agreed, mode was \$2.00/person/day (64% said \$2 to \$5 was “reasonable”)



# Slickrock/Sand Flats Management

- ➔ Rather than limit/disperse, BLM used concentration strategy.
- ➔ Worked with County and Canyon Country Partnership and charged fee for access to area.
- ➔ Annual revenue >\$200,000
- ➔ Trail rides >120,000
- ➔ Response of visitors and local residents “very positive” even among local “skeptics” (Craig Bigler)
- ➔ BLM portion of funds used to: add toilets to SR trailhead, harden existing campsites and trails, add new sites in ecologically resistant (previously impacted) areas, and direct campers to designated sites throughout area.

# Concentration Strategy Benefits

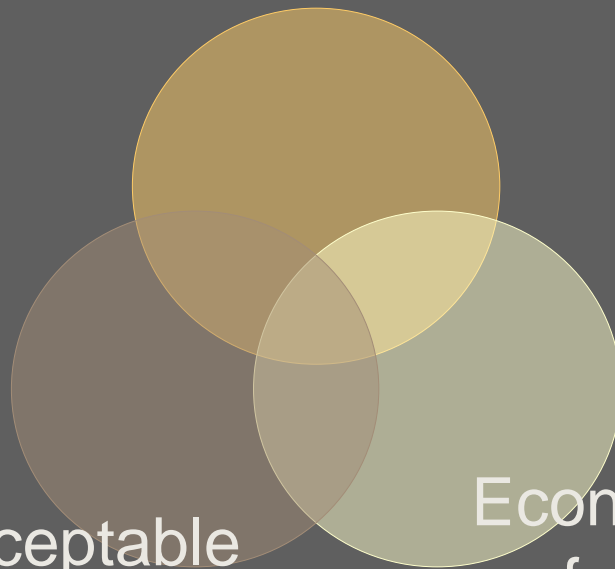
- ⇒ Visitation can increase with negligible increase in local impacts, but decrease in regional impacts.
- ⇒ Reduce future impact area.
- ⇒ Retain freedom of choice for visitors.
- ⇒ Reduce displacement (region-wide, where low density experiences still exist.)
- ⇒ Increase management efficiency.
- ⇒ Increase potential for educational “fix” to reduce impacts and meet visitor expectations.
- ⇒ Increase potential revenue (fee collection) for ecological restoration on-site and regionally.

# Ecosystem Management—All Criteria

Ecologically sustainable

Socially acceptable

Economically  
feasible



# Likely Effects of Limit/Disperse Strategy

- ⇒ Need *large* reduction in visitation for a real improvement in ecological conditions.
- ⇒ Restricting use will lead to dispersal, which may cause . .
  - A large increase in regional ecological impacts;
  - A reduction in visitor satisfaction;
  - An increase in displacement;
  - Angry visitors and local residents;
  - A decline in agency image; and
  - A reduction in opportunities for generating revenue and using educational approaches for reducing impacts.
- ⇒ *Not Ecosystem Management on any criterion.*

# Short Course Participants at SRT





# Volunteers help reclaim Moab park

**Back to nature:** The Nature Conservancy has taken over the former off-road playground

BY LISA J. CHURCH  
*Special to The Tribune*

MOAB In 1999, Emmett May realized his 30-year dream to construct a scenic tramway to the top of the Moab Rim. Today, only a few vestiges of the operation are still visible, and the property's newest owner, The Nature Conservancy of Utah, hopes in the next few years to completely restore the site to its natural state.

Volunteers from across the state joined Moab staff and volunteers including the Moab Friends-for-Wheelin' off-road club on Saturday to help reclaim motorized and mechanized trails, build fences and remove structures, and scrub away signs and markings painted on the rock throughout the newly named Moab Rim Preserve.

William Lowder saw a flier at



LISA CHURCH/The Salt Lake Tribune

William Lowder and Jana Martinez fill in sections of a downhill mountain bike trail Saturday as part of The Nature Conservancy's restoration of the new Moab Rim Preserve.

# Moab Rim Reserve Volunteers

*Volunteers from across the state joined Moab staff and volunteers including the Moab Friends-for-Wheelin' off-road club . . . to help reclaim motorized and mechanized trails. . . [and] installed signs along the Moab Rim Trail to help keep drivers on the main route. Jeff Stevens said the off-road . . . club members want to be good neighbors. . . . Involving groups like the Moab Friends-for-Wheelin' and Red Rock 4-Wheelers helps make the project more successful because the clubs feel involvement in helping protect the area from cross-country travel, said Sue Bellagamba . . . of the Nature Conservancy. "Our goal is to protect the biological resources. To do that, we need to designate one route for the motorized and mechanized communities". . . . The more we manage our surrounding property together, the easier it's going to be for all users (Church 2006).*

# Collaboration and Science?

- ⇒ Required explicitly in planning regs
- ⇒ Referenced in travel management regs
- ⇒ *How* is vague in both (traditional default):
  - Scoping → Draft comments → Final responses
- ⇒ Scoping and facilitated meetings are not collaboration
- ⇒ Collaboration is:
  - “Joint problem solving” (including agency)
  - Use of input in design of alternatives
  - Iterative and responsive
  - Mitigate costs where possible



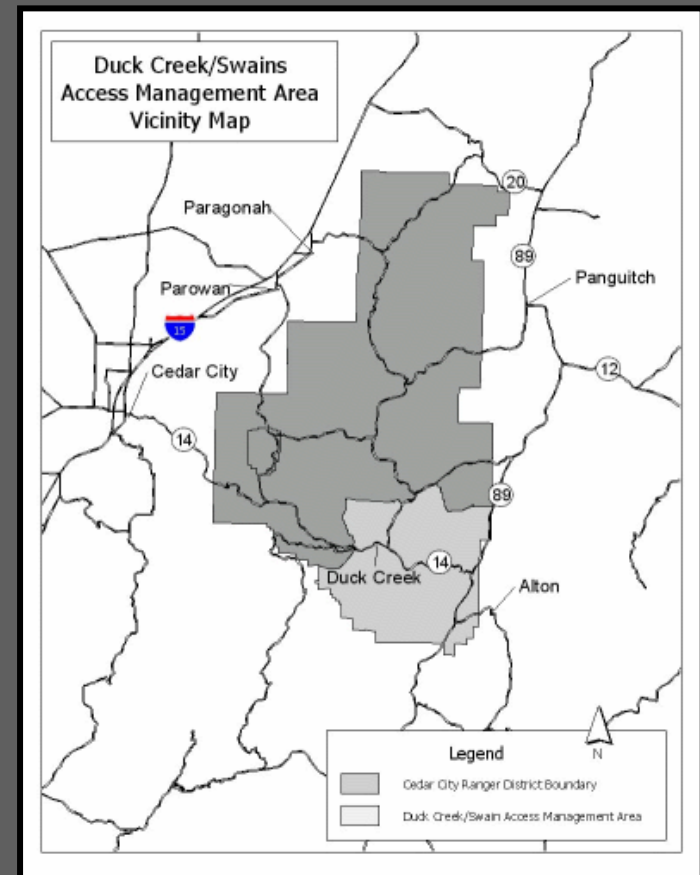
# Duck Creek/Swain's Access Management

Dixie NF, Cedar City RD

Bryan Carter (OHV Coordinator)

Noelle Meier (Forest LA)

- ➔ Highest OHV use on Forest
- ➔ Accessible to urban areas
- ➔ Subdivision development
- ➔ Proliferation of unplanned routes



# **“Proliferation of Unplanned Routes”**

⇒ Highest road density on Forest

- Old logging roads
- User created routes
- ~6 miles/sq. mi.

⇒ Resource impacts (soil, watershed, wildlife habitat)

⇒ Conflict and confusion

# Process

- ➔ GPS/GIS all routes & problems
- ➔ Erosion and runoff data
- ➔ Much better trail map
- ➔ Met repeatedly with interests
- ➔ Worked with groups/officials that protests GSENM road closures
- ➔ Mapped destinations and routes
- ➔ Revised map
- ➔ Developed alternatives that met the needs of access, recreation, resource protection



# Outcome

➡ Alternative chosen addressed concerns pertaining for access, recreation experiences, wildlife and resource protection.

- Closed 60% of roads--density reduced to 2.3 mi./sq. mi.
- Closed just 3 of 6 segments SUWA demanded
- Added 6 segments, rehabbed others
- Not appealed or litigated
- 500 signs, color coded map to improve system
- Expanded to entire Cedar City RD and Markagunt System
- GSENM closure opponents GSENM supported Duck/Swains

# Markagunt ATV System



Parowan

Panguitch

Cedar  
Breaks



DIXIE NATIONAL FOREST, CEDAR CITY RANGER DISTRICT

# Cooperation Led to Funding

District obtained > \$100,000 in grants from State and counties to:

- improve OHV opportunities with well-designed trail system appropriate settings and expectations
- mitigate resource impacts
- do high-quality mapping and signing
- increase law enforcement

Result: Resource protection, visitors pleased and better served, economically feasible.



# ***Recreation Improvements on the Dixie***

## **Duck-Swains Access Management Project**

**(State and County grant contributions)**



**Trail Gates**



**Structures to  
Protect  
Rehabilitation**



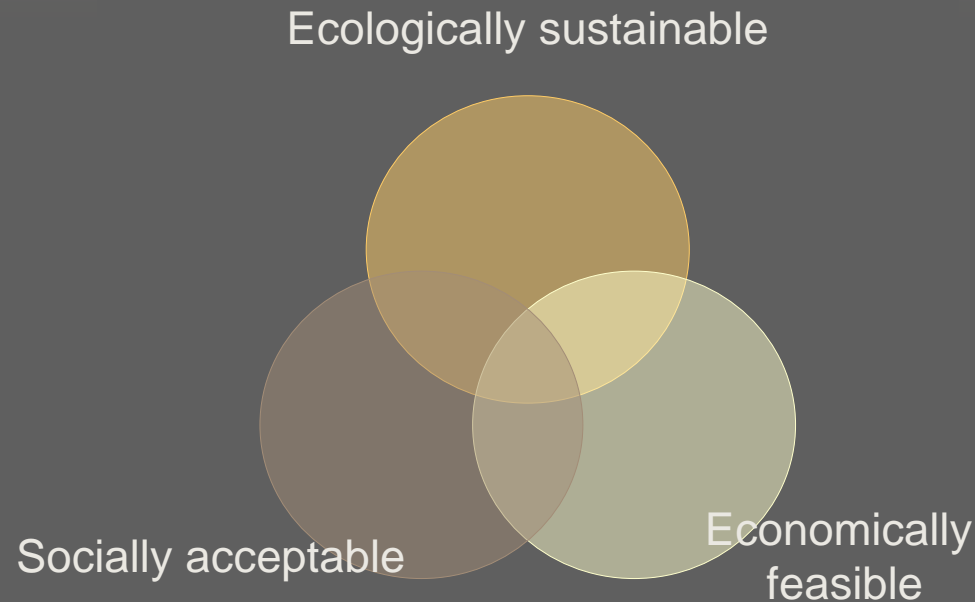
**Route  
Markers**

**Information  
Kiosks**



# Travel Management Policy Paradoxes?

- ⇒ Decisions *can* balance social, ecological, economic
- ⇒ Merge science and collaboration
- ⇒ Science?
  - Beyond public involvement
  - Multi-disciplinary
  - Problem focused, not all inclusive (analysis paralysis)
  - Also participatory





# Lessons Learned?

## 1. Build Collaboration

- Joint problem solving (not scoping)
- Actual use of input
- Iterative and responsive
- Mitigate

## 2. Use social science

- Identify/map destinations and routes
- Experience diversity
- Regional analysis

## 3. Regional context

- Experience opportunities
- Displacement (social and ecological impacts)
- Work around existing routes to extent possible
- Don't expand except to fix problems

# Lessons continued

## 4. Travel management is not a road closure plan

- Will appear to focus on protection, not use
- May actually do neither

## 5. Frame the travel management problem better

- Objectives based on use *and* protection
- Start small, work up
- Problem-oriented (social, ecological, and economic)
- Targeted data (social, ecological, and economic)
- Best management practices for each problem
- Take it *slow*

# A “New” Philosophical Context

- ⇒ Why has Ecosystem Management languished?
  - Too complicated?
  - No agreement on “definition”?
  - Politics?
- ⇒ Philosophical orientation of resource management
  - Reservation ecology
  - Restoration ecology
  - Reconciliation ecology

Michael Rosenzweig. 2003. Win-Win Ecology: How the Earth's Species can Survive in the Midst of Human Enterprise. Oxford University Press.

# Reconciliation Ecology

- ➔ “Seeks environmentally sound ways to for us to continue to use the land for our own benefit.” (Rosenzweig 2003: 1)
- ➔ Humans not “disturbance factor”
- ➔ Ecological sustainability in areas dominated by human use
- ➔ Most of our “problem” areas
  - Take a problem oriented approach
  - Increase sustainability incrementally
  - Use Ecosystem Management decision criteria
  - Public participation
- ➔ Restoring landscapes on a problem-by-problem basis